

Application No.12-27-0001-P

Draft Finding of Fact and Conclusion of Law

Finding of Fact:

The Michigan Department of Environmental Quality (MDEQ) has completed review of permit application #12-27-0001-P

The application was submitted under authority of:

Part 301, Inland Lakes and Streams, Public Act 451 of PA 1994.

Part 303, Wetland Protection, Public Act 451 of PA 1994.

After due consideration of the permit application, on-site investigation and review of other pertinent materials, the MDEQ finds:

- Orvana Resources, U.S. Corporation is the applicant for the proposed copper mine, referred to as the Copperwood Project. Within the application for permit, Orvana Resources describes the purpose of the project as:

To construct and operate an underground copper mine with tailing disposal facility, mill, underground mine entrance (box cut), access roads, detention basins and stormwater ponds.

- The proposed access road will cross the East Branch of Gipsy Creek, Namebinag Creek, and the West Branch of Namebinag Creek. The water supply road will cross the East and West Branches of an unnamed creek and the East and West Branches of Gijik Creek. Culverts are proposed to be replaced or installed at 14 locations, and 5 stormwater detention basins and two stormwater ponds are proposed around the perimeter of the tailings disposal facility. Approximately 13,672 lineal feet of stream will be eliminated during construction of the tailings disposal facility.

During site development, a total of 76,973 cubic yards of spoils will be dredged from 3.40 acres of wetland and 7,314,277 cubic yards of fill placed in 54.71 acres of wetland impacting a total of 58.11 acres of wetland.

The MDEQ received the original application on January 6, 2012, considered the application administratively complete on May 18, 2012, issued a public notice for the application on May 18, 2012, and held a hearing on June 28, 2012. In response to the MDEQ's September 5, 2012 request for clarification of application issues, additional project information was submitted by the applicant on October 22, 2012. Further review of that information resulted in a request for and additional information submitted on November 9, 2012.

Wetland Review Criteria

Review criteria as defined by sections 30302(1) and 30311 of Part 303, Wetland Protection, of the Natural Resources and Environmental

Protection Act 1994 PA 451 were used to review and analyze the application.

In Section 30302(1) The Legislature finds that:

- (a) Wetland conservation is a matter of State concern since the wetland of one county may be affected by acts on a river, lake, stream or wetland of other counties.

(Finding) The wetlands proposed to be impacted on this project are part of a relatively small watershed that discharges directly to Lake Superior approximately 1.5 miles to the north. Impacts to these wetlands will not affect wetlands in any other county. Of the 58.11 acres of wetlands proposed to be affected on site, approximately 7.5 acres are rare wetland communities ranked S3, vulnerable to extirpation in Michigan.

- (b) A loss of a wetland may deprive the people of the state of some or all of the following benefits to be derived from the wetland:
 - (i) Flood and storm control by the hydrologic absorption and storage capacity of the wetland.

(Finding) The proposed project will likely not result in impacts to flood and storm control functions of the affected wetlands. A total of 58.11 acres of wetland would be eliminated. However, stormwater detention ponds and detention basins are proposed to serve as both sediment control devices and as stormwater control.

- (ii) Wildlife habitat by providing breeding, nesting, and feeding grounds and cover for many forms of wildlife, waterfowl, including migratory waterfowl, and rare, threatened, or endangered wildlife species.

The presence of Gray Wolf (Canis lupus) was documented on the site. Specifically, two different packs were identified.

Two State threatened wildlife species were observed, the Common Loon (Gavia immer) and the Peregrine Falcon. Both were seen flying over the property during spring and fall migration, and no suitable habitat exists on the property for either species to nest so no impact is likely.

No federally listed endangered or threatened bird species were identified nor were any Special concern mammals.

- (iii) Protection of subsurface water resources and provision of valuable watersheds and recharging ground water supplies.

Mine dewatering is proposed which will result in the lowering of the groundwater table during the life of the mine. The dewatering will not have a negative impact on the hydrology of the wetlands as the source of water for these wetlands is precipitation and surface runoff and because the soils present under these wetlands have very slow permeability. The proposed withdrawal also passed the Michigan Water Withdrawal Assessment Tool which means the withdrawal is not likely to cause an adverse resource impact.

Pollution treatment by serving as a biological and chemical oxidation basin.

(Finding) The biological and chemical oxidation functions of the wetlands proposed to be impacted by this project will be lost.

- (v) Erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter.

The erosion control and filtering benefits of the wetlands which are proposed to be impacted by this project will be replaced by construction of detention basins and detention ponds.

- (vi) Sources of nutrients in water food cycles and nursery grounds and sanctuaries for fish.

The wetlands proposed to be impacted by this project do not provide sanctuary for fish as the only fish identified were near the mouth of the streams where they enter Lake Superior and those wetlands will not be impacted.

- (c) Wetlands are valuable as an agricultural resource for the production of food and fiber, including certain crops which may only be grown on sites developed from wetland.

The wetlands on this site are not utilized for crop or food production.

- (d) That the extraction and processing of nonfuel minerals may necessitate the use of wetland, if it is determined pursuant to section 9 that the proposed activity is dependent upon being located in the wetland, and that a prudent and feasible alternative does not exist.

It has been determined that the activity is not primarily dependent on being located in a wetland, but that also there is no feasible and prudent alternative.

- (2) In the administration of this act, the department shall consider the criteria provided in subsection (1).

Section 30311, of Part 303, states in a pertinent part:

- (1) A permit for an activity listed in section 30304 shall not be approved unless the MDEQ determines that the issuance of a permit is in the public interest, that the permit is necessary to realize the benefits derived from the activity, and that the activity is otherwise lawful.

Any permit that is issued will be conditioned to require that necessary permits be obtained prior to construction.

It has been determined that this project is in the public interest as it will provide employment in an area of the State where jobs are lacking, and the resulting economic benefits of this project will be widespread and these benefits outweigh the impacts to regulated resources

There is support for this project from the majority of the local townships, cities, county government, and some citizens. The following organizations have expressed support of this project:

Western Upper Peninsula Planning and Development Regional Commission
Gogebic Range Water Authority
Gogebic County Chapter of the Michigan Townships Association
Iron County (WI) Development Sone Council
Gogebic Range Economic Development Commission/Corporation
City of Wakefield
City of Bessemer
City of Ironwood
Ontonagon County Board of Commissioners
Gogebic County
Marenisco Township
Bessemer Township
Wakefield Township
Ironwood Charter Township
Former State Representative Mike Lahti
Former Senator Michael Prusi
Former Congressman Bart Stupak
State Senator Tom Casperson
State Representative Matt Huuki
US Senator Debbie Stabenow
US Senator Carl Levin

There is opposition to the project by some governments, citizens and organizations including:

Great Lakes Indian Fish and Wildlife Commission
Keweenaw Bay Indian Community
Bad River Band of Lake Superior Tribe of Chippewa Indians
National Wildlife Federation

The proposed project would impact regulated wetlands and streams and permits are necessary to realize the benefits of the proposed activity since the mill, box cut and tailings disposal facility cannot be constructed without this impact to regulated wetlands.

- (2) In determining whether the activity is in the public interest, the benefit which reasonably may be expected to accrue from the proposal shall be balanced against the reasonably foreseeable detriments of the activity. The decision shall reflect the national and state concern for the protection of natural resources from pollution, impairment, and destruction. The following general criteria shall be considered:
 - (a) The relative extent of the public and private need for the proposed activity.

Copper is a valuable and necessary component for sustaining our society. The area surrounding the proposed mine has been negatively impacted by closure of another copper mine and a paper mill, as illustrated by these data:

According to the 2010 Census, the median household income for Gogebic and Ontonagon Counties averaged \$34,481 which is only 66% of the median income of \$51,914 for the United States. The unemployment rate in September 2012 for Gogebic and Ontonagon Counties (8.9% and 10.7% respectively) were also well above the national average of 7.9%.

The current mine plan anticipates a 13 year mine life during which time approximately 300 people will be permanently employed with a total annual payroll of \$25,672,000. In addition, Capital costs associated with construction, including the boxcut, mill, tailings disposal facility, access roads and other associated structures will entail expenditures of an additional \$383.4 million dollars which will result in direct employment of 450 construction workers, and will result in financial support of area businesses to supply the necessary equipment and materials. An independent study conducted by the University of Minnesota Duluth School of Business concluded that an additional 213 service sector jobs will be generated and that approximately \$2.3 billion dollars will be injected into the local economy over the life of the mine. Federal and State/local taxes will and generate revenue of \$8.5 million and \$65 million, respectively.

The majority of wetlands proposed to be impacted by this project are forested and were divided into two categories and ranked using the Michigan Rapid Assessment Method (MIRAM) by the applicant's consultant. The first wetland group included the 50 acres proposed to be impacted by the Tailings Disposal Facility (TDF), and it ranked 69 on a scale of 1 to 100), making its functional value between "moderate and high". The State Threatened Showy Orchis (*Galearis spectabilis*) is present in the area to be impacted, but the applicant has obtained a permit from MDNR Wildlife Division to relocate the affected individual plants.

The other category include those remaining 7.41 acres of wetlands proposed to be impacted by the mill, box cut, access road, water supply road and stream diversions and they ranked 44 on the MIRAM scale, indicating they are on the low end of the moderate functional value range.

(b) The availability of feasible and prudent alternative locations and methods to accomplish the expected benefits from the activity.

(Finding) It has been determined that the use of unaugmented (raw) tailings backfill, hydraulic sand backfill, and augmented (paste) backfill of tailings back into the mine to minimize the wetland impact vs. the proposed wetland impacts from the above ground TDF is not a feasible and prudent alternative because of safety concerns, logistics and the additional costs involved.

In addition alternate locations and configurations for the Tailings Disposal Facility (TDF) have been evaluated and rejected based on ecological impacts, cost, safety and/or logistics.

While the TDF poses the most significant impacts, the wetland impacts associated with the preferred locations and/or design and size and

proposed method of construction of the access road, mine entrance (box cut), mill, and water supply access road are also the most feasible and prudent alternatives after considering costs, existing technology, and logistics. Specifically, the proposed mine access road location impacts the least amount of wetlands of all the options evaluated; the box cut is proposed at the point where the ore body is located closest to the surface and will therefore involve the least amount of excavation and the shortest access ramp length; the water supply access road will follow an existing access road through most of the distance, minimizing wetland impacts; and finally the mill site must be located in close proximity to the box cut resulting in few possible alternatives.

(c) The extent and permanence of the beneficial or detrimental effects which the proposed activity may have on the public and private uses to which the area is suited, including the benefits the wetland provides.

(Finding) The wetlands proposed to be impacted will be permanently lost because of this project, but will be mitigated by creation of 18.3 acres of wetlands on site and an additional 602 acres of similar wetlands to those being impacted and 218 acres of upland buffer that will be preserved under a permanent conservation easement from future potential impacts such as logging, mining, road and camp construction.

The area where active mining and processing will occur will no longer be accessible to individuals who currently may wish to recreate on those private lands which are under the Commercial Forest Act.

(d) The probable impact of each proposal in relation to the cumulative effect created by other or existing and anticipated activities in the watershed.

(Finding) There are no other known existing or anticipated impacts to wetlands in the watershed. Much of the adjacent land is owned by the Federal government

(e) The probable impact on recognized historic, cultural, scenic, ecological, or recreational values and on the public health or fish or wildlife.

(Finding) The TDF will be visible from the highest points of the Porcupine Mtn. State Park but once vegetated will look more natural. There will be little loss of recreational values. For example, the TDF is 14 miles from Lake of the Clouds overlook in Porcupine Mountain State Park. About half of the TDF will be visible. At 14 miles, the entire viewshed (circumference of a 14 mile circle) is 87 miles. The TDF will be visible in about 1 mile, or about 1% of the viewshed at that distance. On an aerial basin, the impact will be far less.

(f) The size of the wetland being considered.

(Finding) The wetlands on this property are fairly small and numerous.

(g) The amount of remaining wetland in the general area.

(Finding) According to the National Wetland Inventory (NWI), there are approximately 585 acres of wetlands within a 25 square mile area surrounding the site. There are also 192,400 acres of wetland in

Gogebic County. However, it should be noted that this total likely under-represents the amount of wetlands since the NWI indicated no wetlands on the 3,000 acre delineation area on the Orvana property when in fact field delineation yielded some 320 acres of actual wetland.

(h) Proximity to any waterbody.

(Finding) The underground mine workings will occur within 200 feet of the ordinary high water mark of Lake Superior. The mill, box cut and TDF will be approximately 1.5 miles from Lake Superior.

Economic value, both public and private, of the proposed land change to the general area.

(Finding) Repeat earlier economic information

- (3) In considering a permit application, the MDEQ shall give serious consideration to findings of necessity for the proposed activity which have been made by other state agencies.

(Finding) NA

- (4) A permit shall not be issued unless it is shown that an unacceptable disruption will not result to the aquatic resources. In determining whether a disruption to the aquatic resources is unacceptable, the criteria set forth in section 3 and subsection (2) shall be considered. A permit shall not be issued unless:

(Finding) refer back to section 3 and subsection 2.

- (a) The proposed activity is primarily dependent upon being located in the wetland.

(Finding) NA

- (b) A feasible and prudent alternative does not exist.

(Finding) refer back to earlier information

Mitigation

Rule 5.

- (1) As authorized by section 30312(2) of the act, the department may impose conditions on a permit for a use or development if the conditions are designed to remove an impairment to the wetland benefits, to mitigate the impact of a discharge of fill material, or to otherwise improve the water quality.
- (2) The department shall consider mitigation only after all of the following conditions are met:
- (a) The wetland impacts are otherwise permissible under sections 30302 and 30311 of the act.

(Finding) See 30302 and 30311 portions of this document

- (b) No feasible and prudent alternative to avoid wetland impacts exists.

(Finding) See applicable portion of this document

- (c) An applicant has used all practical means to minimize impacts to wetlands. This may include the permanent protection of wetlands on the site not directly impacted by the proposed activity.

(Finding) Describe

- (1) The department shall require mitigation as a condition of a wetland permit issued under Part 303 of the Act, except as

follows:

- (a) The department may waive the mitigation condition if either of the following provisions applies:
 - (b) The permitted wetland impact is less than 1/3 of an acre and no reasonable opportunity for mitigation exists.

NA

- (ii) The basic purpose of the permitted activity is to create or restore wetlands or to increase wetland habitat.

(Finding) NA

- (a) If an activity is authorized and permitted under the authority of a general permit issued under section 30312(1) of the act, then the department shall not require mitigation. Public transportation agencies may provide mitigation for projects authorized under a general permit at sites approved by the department under a memorandum of understanding between the department and public transportation agencies.

(Finding) NA

- (1) The department shall require mitigation to compensate for unavoidable wetland impacts permitted under part 303 of the act utilizing one or more of the following methods:

- (a) The restoration of previously existing wetlands.
- (b)

(Finding) There were no opportunities for wetland restoration available since the western Upper Peninsula of Michigan was not historically an agricultural area. Therefore, wetlands have not been drained or altered to any extent.

- (c) The creation of new wetlands.

(Finding) Complete when acceptable mitigation package is submitted

- (d) The acquisition of approved credits from a wetland mitigation bank established under R281.951 et seq.

(Finding) NA

- (e) In certain circumstances, the preservation of existing wetlands. The preservation of existing wetlands may be considered as mitigation only if the department determines that all of the following conditions are met:
 - (i) The wetlands to be preserved perform exceptional physical or biological functions that are essential to the preservation of the natural resources of the state or the preserved wetlands are an ecological type that is rare or endangered.

(Finding) Complete when acceptable mitigation package is submitted

- (ii) The wetlands to be preserved are under a demonstrable threat of loss or substantial degradation due to human activities that are not under the control of the applicant and that are not otherwise restricted by state law.

(Finding) Complete when acceptable mitigation package is submitted

- (iii) The preservation of the wetlands as mitigation will ensure the permanent protection of the wetlands that would otherwise be lost or substantially degraded.

(Finding) Complete when acceptable mitigation package is submitted

- (1) The restoration of previously existing wetlands is preferred over the creation of new wetlands where none previously existed. Enhancement of existing wetlands is not considered mitigation. For purposes of this rule, wetland restoration means the reestablishment of wetland characteristics and functions at a site where they have ceased to exist through the replacement of wetland hydrology, vegetation, or soils.
- (2) An applicant shall submit a mitigation plan when requested by the department. The department may incorporate all or part of the proposed mitigation plan as permit conditions. The mitigation plan shall include all of the following elements:
 - (a) A statement of mitigation goals and objectives, including the wetland types to be restored, created, or preserved.
(Finding) Complete when acceptable mitigation package is submitted
 - (b) Information regarding the mitigation site location and ownership.
(Finding) Complete when acceptable mitigation package is submitted
 - (c) A site development plan.
(Finding) Complete when acceptable mitigation package is submitted
 - (d) A description of baseline conditions at the proposed mitigation site, including a vicinity map showing all existing rivers, lakes, and streams, and a delineation of existing surface waters and wetlands within the proposed mitigation area.
(Finding) Complete when acceptable mitigation package is submitted
 - (e) Performance standards to evaluate the mitigation.
(Finding) Complete when acceptable mitigation package is submitted
 - (f) A monitoring plan.
(Finding) Complete when acceptable mitigation package is submitted
 - (g) A schedule for completion of the mitigation.
(Finding) Complete when acceptable mitigation package is submitted
 - (h) Provisions for the management and long-term protection of the site. The department shall, when requested by the applicant, meet with the applicant to review the applicant's mitigation plan.
(Finding) Complete when acceptable mitigation package is submitted
- (1) An applicant shall provide mitigation to assure that, upon completion, there will be no net loss of wetlands. The mitigation shall meet the following criteria as determined by the department:
 - (a) Mitigation shall be provided on-site where it is practical to mitigate on-site and where beneficial to the wetland resources.
(Finding) Complete when acceptable mitigation package is submitted
 - (b) If subdivision (a) of this subrule does not apply, then an applicant shall provide mitigation in the immediate vicinity of the permitted activity if practical and beneficial to the wetland resources. "Immediate vicinity" means within the same watershed as the location of the proposed project. For purposes of this rule, a watershed refers to a drainage area in which the permitted activity occurs where it may be possible to restore certain wetland functions, including

hydrologic, water quality, and aquatic habitat functions.
Watershed boundaries are shown in Figure 1 in R 281.951.

(Finding) Complete when acceptable mitigation package is submitted

- (c) Mitigation shall be on-site or in the immediate vicinity of the permitted activity unless the department determines that subdivisions (a) and (b) of this subrule are infeasible and impractical.

(Finding) Complete when acceptable mitigation package is submitted

- (d) The department shall require that mitigation be of a similar ecological type as the impacted wetland where feasible and practical.

(Finding)

- (e) If the replacement wetland is of a similar ecological type as the impacted wetland, then the department shall require that the ratio of acres of wetland mitigation provided for each acre of permitted wetland loss shall be as follows:
 - (i) Restoration or creation of 5.0 acres of mitigation for 1.0 acre of permitted impact on wetland types that are rare or imperiled on a statewide basis.

(Finding)

- (ii) Restoration or creation of 2.0 acres of mitigation for 1.0 acre of permitted impact on forested wetland types, coastal wetlands not included under (i) of this subdivision, and wetlands that border upon inland lakes.

(Finding)

- (iii) Restoration or creation of 1.5 acres of mitigation for 1.0 acre of permitted impact on all other wetland types.

(Finding)

- (iv) 10 acres of mitigation for 1.0 acre of impact in situations where the mitigation is in the form of preservation of existing wetland as defined in subrule (4) of this rule.

(Finding) Complete when acceptable mitigation package is submitted

- (f) The department may adjust the ratios prescribed by this rule as follows:
 - (i) The ratio may be increased if the replacement wetland is of a different ecological type than the impacted wetland.

(Finding) Complete when acceptable mitigation package is submitted

- (ii) If the department determines that an adjustment would be beneficial to the wetland resources due to factors specific to the mitigation site or the site of the proposed activity, then the department may increase or decrease the number of acres of mitigation to be provided by no more than 20 percent. This shall not limit the amount which a ratio may be increased under subdivisions (f) and (i) of this subrule.

(Finding)

- (g) The mitigation shall give consideration to replacement of the predominant wetland benefits lost within the impacted wetland.

(Finding)

- (h) The department shall double the required ratios if a permit is issued for an application accepted under section 30306(5) of the act.
- (i) The department shall determine mitigation ratios for wetland dependent activities on a site-specific basis.

(Finding)

- (1) Except where mitigation is to occur on state or federally owned property or where the mitigation is to occur in the same municipality where the project is proposed, the department shall give notice to the municipality where the proposed mitigation site is located and shall provide an opportunity to comment in writing to the department on the proposed mitigation plan before a mitigation plan is approved by the department.

Condition permit

- (2) An applicant shall complete mitigation activities before initiating other permitted activities, unless a concurrent schedule is agreed upon between the department and the applicant, and an adequate financial assurance mechanism is provided by the applicant.
- (3) The department may require financial assurances to ensure that mitigation is accomplished as specified.

We need a plan/amount.
- (4) An applicant shall protect the mitigation area by a permanent conservation easement or similar instrument that provides for the permanent protection of the natural resource functions and values of the mitigation site, unless the department determines that such controls are impractical to impose in conjunction with mitigation that was undertaken as part of state funded response activity under Act No. 451 of the Public Acts of 1994, as amended.
- (5) An applicant, with the approval of the department, may provide all or a portion of the mitigation through the acquisition of approved credits from a wetland mitigation bank established under R 281.951 et seq. One credit shall be utilized for each acre of mitigation required under subrule (7) of this rule. NA

Inland Lakes and Streams Review Criteria

Section 30106, of Part 301, states in a pertinent part:

- (1) The department shall issue a permit if it finds that the structure or project will not adversely affect:
 - (a) The public trust.
 - (i) The paramount right of the public to navigate and fish in all inland lakes and streams which are navigable.

The streams proposed to be impacted by this project are intermittent and not navigable due to the fact that they are impacted by beaver dams throughout their lengths, the gradient is very steep and they have such minimal flow during most of the year such that navigation is not possible. There are very few to no game fish in these streams so fishing opportunities by the public are for the most part non-existent.

- ii) The perpetual duty of the state to preserve and protect the public's right to so navigate and fish.

(Finding) See above

(iii) The paramount concern of the public and the protection of the air, water, and other natural resources of this state against pollution, impairment, and destruction.

(iv)

(Finding) This permit, in conjunction with the NDPES and Part 632 permit provide this protection. The NPDES permit was issued for the project on November 13, 2012.

(iv) The duty of the state to protect the air, water, and other natural resources of this state against pollution, impairment, or destruction.

(Finding) See above

(b) Riparian rights.

(i) Access to the navigable waters.

(Finding) NA

(2) In passing upon an application, the department shall consider:

(a) The possible effects of the proposed action upon the inland lake or stream;

(Finding) See above

(b) The waters from which or into which its waters flow;

(Finding) The streams impacted by this project are of relatively low value. Water quality will be protected by the requirements of the NPDES and Part 632 permits. The functions lost by the filling of 13,672 lineal feet of streams will be mitigated by the construction of 10,500 lineal feet of natural stream channel as part of the stream diversion around the east and west side of the TDF. In addition, approximately 1,200 lineal feet of stream channel will be restored by removal of waste mine rock placed during previous culvert installations. These stream mitigation efforts will improve stream physiochemical and biological functions along approximately 36,200 lineal feet of stream. Finally, an undersized, perched culvert currently inhibiting fish migration on Two Mile Creek, a trout stream in Ontonagon County to the SE of the project site, will be replaced under a separate permit with a property sized, natural stream channel box culvert or bridge. This replacement will improve biological functions for approximately 22 miles upstream of the crossing.

(c) The uses of all such waters, including uses for:

(i) Recreation

(Finding) The recreational uses of these waters that are lost are adequately mitigated.

(ii) Fish

(Finding) The lost use of these waters by fish are adequately mitigated.

(iii) Wildlife

(Finding) The lost use of these waters by wildlife are adequately mitigated.

(iv) Aesthetics

(Finding) The aesthetic impacts of this project have been minimized to the extent feasible and are reasonable given the magnitude of the project.

(v) Local government

(Finding) Local governments have expressed strong support for this project.

(vi) Agriculture

(Finding) No impacts to agriculture are expected.

(vii) Commerce

(Finding) This project will enhance local commerce.

(viii) Industry

(Finding) This project will bring an economically and socially important industry to the area.

- (2) The department shall not grant a permit if the proposed project or structure will unlawfully impair or destroy any of the waters or other natural resources of the state.

(Finding) This project has been reviewed and permitted under mining (Part 632) and water quality (NPDES) statutes. The permit will be conditioned to prevent construction prior to receipt of all necessary permits. The project, as permitted, will not unlawfully impair or destroy any waters or other natural resources of the state.

Rule 4. In each application for a permit, all existing and potential adverse environmental effects shall be determined and the department shall not issue a permit unless the department determines both of the following:

- (a) That the adverse impacts to the public trust, riparian rights, and the environment will be minimal.

(Finding) Given the scope and complexity of copper mining, the proposed project has minimal impact to the public trust, riparian rights and the environment.

- (b) That a feasible and prudent alternative is not available.

(Finding) Repeat earlier comments from 303

Conclusion of Law: